

WHAT IS CLAIMED IS:

1. Cylinder head for a water-cooled multi-cylinder internal-combustion engine having two intake valves and outlet valves per cylinder, a cylinder head cooling chamber with inflow and outflow openings for the coolant, and a receiving opening for a spark plug, which receiving opening is arranged centrally relative to the cylinder head cooling chamber of a cylinder,

wherein on an inflow side in the cylinder head cooling chamber, a main cooling flow runs between the two outlet valves in a direction of the receiving opening for the spark plug, while two secondary cooling flows are provided at two edge areas of the inflow side.
2. Cylinder head according to Claim 1, wherein at the level of the receiving opening for the spark plug, two guiding ribs are provided laterally of the opening, whose cross-sections have different sizes for generating a transverse flow.
3. Cylinder head according to Claim 1, wherein on the outflow side of the cylinder head cooling chamber, two outflow openings are provided whose diameters have different sizes for generating a transverse flow.
4. Cylinder head according to Claim 2, wherein on the outflow side of the cylinder head cooling chamber, two outflow openings are provided whose diameters have different sizes for generating a transverse flow.

5. Cylinder head according to Claim 1, wherein a cooling educt is additionally provided on the inflow side which directly guides coolant to a hot spot in the cylinder head housing.
6. Cylinder head according to Claim 2, wherein a cooling educt is additionally provided on the inflow side which directly guides coolant to a hot spot in the cylinder head housing.
7. Cylinder head according to Claim 3, wherein a cooling educt is additionally provided on the inflow side which directly guides coolant to a hot spot in the cylinder head housing.
8. Cylinder head according to Claim 4, wherein a cooling educt is additionally provided on the inflow side which directly guides coolant to a hot spot in the cylinder head housing.
9. Cylinder head for a water-cooled multi-cylinder internal combustion engine of the type having two outlet valves per cylinder, said cylinder head comprising:
 - an ignition plug receiving opening,
 - a pair of outlet valve accommodating recesses at one side of the receiving opening,
 - and a cylinder head cooling chamber with inflow and outflow openings for a coolant, wherein said cooling chamber is configured to provide a main cooling flow between the outlet valve accommodating recesses and secondary cooling flows along lateral sides of the outlet valve accommodating recesses.

10. Cylinder head according to Claim 9, wherein a pair of coolant inflow openings are provided at a side of said outlet valve accommodating recesses facing away from the ignition plug receiving opening.
11. Cylinder head according to Claim 9, wherein coolant guiding ribs with different cross-sectional sizes are provided in the cooling chamber at respective opposite sides of the ignition plug receiving opening, to thereby generate a transverse flow of coolant.
12. Cylinder head according to Claim 10, wherein coolant guiding ribs with different cross-sectional sizes are provided in the cooling chamber at respective opposite sides of the ignition plug receiving opening, to thereby generate a transverse flow of coolant.
13. Cylinder head according to Claim 9, wherein said cooing chamber has first and second outflow openings with different sizes to thereby generate a transverse flow of coolant.
14. Cylinder head according to Claim 10, wherein said cooing chamber has first and second outflow openings with different sizes to thereby generate a transverse flow of coolant.
15. Cylinder head according to Claim 11, wherein said cooing chamber has first and second outflow openings with different sizes to thereby generate a transverse flow of coolant.
16. Cylinder head according to Claim 12, wherein said cooing chamber has first and second outflow openings with different sizes to thereby generate a transverse flow of coolant.

17. Cylinder head according to Claim 10, wherein said cooling chamber includes a further cooling inlet between the inflow openings, which further cooling inlet directly guides coolant to a hot spot in the cylinder head.
18. Cylinder head according to Claim 12, wherein said cooling chamber includes a further cooling inlet between the inflow openings, which further cooling inlet directly guides coolant to a hot spot in the cylinder head.
19. Cylinder head according to Claim 14, wherein said cooling chamber includes a further cooling inlet between the inflow openings, which further cooling inlet directly guides coolant to a hot spot in the cylinder head.
20. Cylinder head according to Claim 16, wherein said cooling chamber includes a further cooling inlet between the inflow openings, which further cooling inlet directly guides coolant to a hot spot in the cylinder head.